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QA Test Management
Test Repository, Execution, Reports

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Software Testing and Test Tools Resources

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This page lists over 500 software testing and software test tools sites we hope you will find helpful.
[Click here to suggest a site for inclusion in this list.](#)

Functional Testing

Control Risk & Detect Failure Early In The Manufacturing Process!
www.cimtek.com

Quality Assurance Testing

Web Application Quality Assurance Free Trial - Web App Testing Suite!
www.empirix.com

Software Testing Tool

Safe Virtualization Platform for Software Testing. Free White Paper!
www.vmware.com

[Ads by i](#)**Test Tools**

Load testing for web applications & web services. Visit info/ free eval
www.red-gate.com

Functional Testing Tools

Automated testing tools for your PeopleSoft application
www.newmerix.com

Better Automated Testing

Faster & more usable automated test functional testing.
www.worksoft.com

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ApTest is your source for software testing. If you're interested in having a product or web site tested, or need custom test technology developed please get in touch with us. We'll work with you to understand your needs, and our deliverables will delight you.

SOFTWARE TESTING GLOSSARY · TYPES OF SOFTWARE TESTING · TRAINING AND CERTIFICATION COURSES			
Information	Application Test Tools	Web Test Tools	Other
<ul style="list-style-type: none"> • General • General - Tools • Mailing Lists • Publications 	<ul style="list-style-type: none"> • Source Test Tools • Functional Test Tools • Performance Test Tools 	<ul style="list-style-type: none"> • Link and HTML Test Tools • Functional Test Tools • Performance Test 	<ul style="list-style-type: none"> • Test Management Tools • Bug Tracking • API Test Tools

<ul style="list-style-type: none"> • Web Sites • QA Job Sites • White Papers • QA Tester Certifications 	<ul style="list-style-type: none"> • Java Test Tools • Embedded Test Tools • Data Base Test Tools 	<ul style="list-style-type: none"> Tools • <u>Performance Test Services</u> 	<ul style="list-style-type: none"> • Communication Tools • Other Tools • Services
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INFORMATION

General

- A Bibliography on testing object-oriented software
- FDA General Principles of Software Validation
- ISO 9000 information and resources
- A large collection of links on Object Oriented approaches and testing
- Requirements management site includes links to every RM tool on the web, requirements quality factors, if testability, and more.
- Software Engineering Proverbs
- Software Engineering Templates
- Software Testing Glossary
- Software Testing (QA) templates provide you with the logs, forms, checklists, and templates you need to succeed as a QA Manager.
- Templates for test plans and alike.
- Training and Certification Courses
- Types of Performance Tests.
- Types of Software Testing
- Unit Test Template.

General - Tools

- 4Test Map information on Segue's 4Test language
- Automated Test Tool Comparison and another comparison
- Bug tracking and defect tracking resource Quality assurance/testing links, with bug tracking and defect tracking tools, articles, sites, books and forums
- Call Center, Bug Tracking and Project Management Tools for LINUX
- Extreme Programming Test Tool Downloads
- HTML Conformance Testing info from W3C
- Java GUI testing with JUnit.
- Load Test Tools Evaluation. Opinions expressed are those of the authors and not of ApTest or its employees.
- Microsoft Web server Stress tools With these tools you can stress test your Web server to see how it reacts when several hundred users access your application at peak times.
- Overview of Load Test Tools. Reviews the pros and cons of several commercial and open source tools.
- Another Price Comparison of bug tracking tools.
- Problem Management Tools Summary
- Segue and Mercury products
- SilkTest and Winrunner Feature Comparison
- Technical issues for bug tracking tools.
- Winrunner Tips bits of advice on Winrunner.

Mailing Lists and User Groups

- [Agile Testing](#)
- [Mercury Loadrunner](#)
- [Mercury Winrunner](#)
- [Mercury Winrunner scripts](#)
- [Rational SQA Suite](#)
- [Segue SilkTest](#)
- [Silicon Valley SilkTest Users' Group](#)
- [Software Quality](#)
- [Testing Java GUIs](#)
- [Visual Test](#)

Publications

- The book [Automated Software Testing](#). A guide for software engineers and software project managers, resources for software test activities.
- [Better Software Magazine](#)
- [Methods & Tools](#) An electronic newsletter on software development, often has articles on software testing
- [Quality Techniques](#) newsletter
- [Quality Progress](#) magazine from the American Society for Quality
- The book [Quality Web Systems](#)
- [Software Quality Professional](#) magazine from the American Society for Quality
- [Software Test & Performance Magazine](#) Subscriptions are FREE to qualified testers, developers and development/test management. From the publishers of SD Times.

Testing Related Web Sites

- [An information resource for software testers](#) Testingfaqs.org by Danny Faught.
- [Capability Maturity Model](#) Product development best practices.
- [Die Software Testing Website](#) Articles, book reviews, software for download, and a discussion forum. Most site is in german.
- [Effective Performance Testing](#) Presentations on a variety of performance testing topics.
- [philosophe.com](#) Essays on web site quality
- [Software Quality Hotlist](#) Providing access to worldwide software quality technology sources
- [SoftwareTester.org](#) software testing knowledge base
- [Software Testing Education](#) Includes notes from courses by James Bach, Cem Kaner, and Bret Petticord
- [Software Testing and Resource center](#)
- [Test portal of the Netherlands](#) Largely in Dutch.
- [Test Driven development community](#)

Sites - QA Jobs

- [CareerBuilder.com](#) 900,000 jobs.
- [ComputerJobs.com](#) Hi-Tech only. Has a special skill section for QA.
- [ComputerWork.com](#) Hi-Tech only.
- [Dice](#) Large hi-tech job site, perm and contract.
- [Monster.com](#) Very large site for all sorts of jobs.
- [NetTemps](#) Contract, temporary, and permanent.

- [QAJobs.net testing-specific job site.](#)
- [Software Contractors' Guide Contract and consulting jobs.](#)
- [Yahoo Hotjobs General purpose job site.](#)

White Papers - Test Automation

- [GUI Testing Checklist](#)
- [How to Automate Testing of Graphical User Interfaces](#)
- Improving the Maintainability of Automated Test Suites
- [JUnitTest Infected: Programmers Love Writing Tests Writing tests with JUnit.](#)
- [Lessons in Test Automation](#)
- [Software Test Automation and the Product Lifecycle](#)
- [Test Automation Frameworks](#)

White Papers - Manual Testing

- [Facts and Myths about Test Automation](#)
- [Manual or Automated?](#)
- [Shoestring Manual testing](#)
- [Test Automation Snakeoil Arguments against some of the claims made for test automation.](#)
- [When Should a Test Be Automated?](#)

White Papers - Agile Testing

- [About the Return on Investment of Test-Driven Development](#)
- [Context Driven Testing](#)
- [Crystal Methodologies](#)
- [Continuous Integration](#)
- [Evolution of Test and Code Via Test-First Design](#)
- [Extreme Testing](#)
- [Extreme Unit Testing: Ordering Test Cases to Maximize Early](#)
- [Integrating Unit Testing Into A Software Development Team's Process](#)
- [The Need for Speed: Automating Acceptance Testing in an](#)
- [The New Methodology by Martin Fowler](#)
- [New Models for Test Development by Brian Marick](#)
- [Refactoring in a "Test First"-World](#)
- [SCRUM an iterative, incremental process for developing any product or managing any work.](#)
- [XP Programming an Agile Software Development Resource.](#)

White Papers - Other

- [16 Critical Software Practices](#)
- [Buyer's guide to code coverage technology](#)
- [Classic Testing Mistakes](#)
- [Code Coverage Analysis](#)
- [Experience with the cost of different coverage goals for software testing](#)
- [Generating Test Cases From Use Cases](#)
- [Fighting Memory Leaks](#)
- [How to Misuse Code Coverage. It also talks about how not to misuse it.](#)

- [Manager's Guide to Evaluating Test Suites](#). A subjective approach to judging the goodness of a collection.
- [Measurement of the Extent of Testing](#) by Cem Kaner
- [Painless Bug Tracking](#). Includes ten top tips for bug tracking
- [PROCESS IMPROVEMENT: Case Study of an Improvement Program Featuring Reviews and Inspections](#)
- [Reflections on Scheduling Software Tests, the Project Life Cycle, and the Last Minute Bug](#)
- [Software Negligence and Testing Coverage](#)
- [Tester to Developer Ratio. Estimating Tester to Developer Ratios \(or Not\)](#)
- [Software Testing Best Practices](#)
- [The Fine Art of Writing a Good Bug Report](#)
- [What is Software Testing and Why is it So Hard?](#)

QA Tester Certifications

- [Certification Comparisons](#)
- [American Society for Quality Certified Software Quality Engineer \(CSQE\)](#)
- [British Computer Society Information Systems Examinations Board \(ISEB\) qualification in Software Testing](#)
- [International Software Quality Institute ISTQB Certified Tester](#). The ISTQB is the umbrella organization for national testing boards, which have already been established in many countries across Europe and around the world.
- [Quality Assurance Institute Certified Software Quality Analyst \(CSQA\)](#)

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APPLICATION TEST TOOLS

Source Test Tools

Product	Vendor	Comments
AdaTEST	IPL	Coverage, static, and dynamic software testing for Ada Apps
AQtime	AutomatedQA	Profiling toolkit for thorough analysis of Delphi, Visual Basic, Visual C++, C++ Builder, Intel C++, Visual Fortran applications. It offers over two dozen performance and memory usage profilers and productivity tools that work in unison to give you an unrivaled level of information on the state of your software projects - from inception to delivery!
Bullseye Coverage	Bullseye Testing Technology	C/C++ code coverage
Cantata	IPL	Coverage, static, and dynamic software testing for C/C++ apps
Code Coverage	DMS	DCC reinvents code coverage. Without recompiling or relinking, function, line, decision and branch information is gathered. Full source code annotation is given. Information from multiple runs can be aggregated.
CMT++	Testwell	Static analysis/metric tool for C and C++ code
CodeCheck	Abraxas Software	Measures maintainability, portability, complexity, and standards compliance of C and C++ source code
CodeWizard	ParaSoft	C++ analysis tool
CTA++, CTB	Testwell	Test harnessing tools for unit testing C and C++ code
CTC++	Testwell	Test coverage analyzer and execution profiling tool for C++ code
devAdvantage	Anticipating Minds	Create custom C# coding standards. Detects and corrects for .NET best practices.
Diversity Analyzer	Vidak Quality	Implements a unique patented technology aimed at measuring the control and data diversity give suite for C/C++/C# and VB code. Higher control and data diversity higher the probability of problems.

		detection. Also gives conditional coverage, as a special case of conditional diversity.
<u>GlowCode</u>	Electric Software	Memory and resource leak detection, code profiler, function call trace, and report tools for Win32
<u>Insure++</u>	Parasoft	Runtime error detection tool for C and C++
<u>LDRA Testbed</u>	LDRA	Static & Dynamic Code Analysis Toolset
<u>Leak Check</u>	DMS	Quality tool used for finding memory leaks. No recompile or relink is required! Application code and code can be checked. Innovative Leak Pinpointing gives both the allocation stack and the spot of
<u>Logiscope</u>	Telelogic	Source code analysis tools
<u>OSPC</u>	Knowledge Software	Checks applications, written in C for conformance to company coding standards, International standard and conformance to the C standard
<u>Panorama</u>	ISA Inc	Test Coverage Analysis & Metrics Testing for C & C++
<u>PolySpace Suite</u>	PolySpace	Detects run-time errors and non-deterministic constructs in applications at compilation time. The : available for ANSI C, C++ and Ada 83/95.
<u>Prevent</u>	Coverity	Static source code analysis tool to automate the detection of catastrophic software defects at comp. Developed at Stanford University, Coverity's technology is used at nearly 80 companies to ensure is secure and high quality.
<u>Purify</u>	Rational Software	Run-time error and memory leak detector
<u>QA-C/C++</u>	Programming Research	Coding standards enforcements, static bug detection and metrics analysis for C and C++. Suppor array of platforms, compilers and libraries.
<u>TBGEN</u>	Testwell	Test harnessing tool for unit testing Ada code
<u>TCAT C/C++</u>	Software Research	TCAT C/C++ is a fully automated tool for static analysis and code coverage at the unit, sub-syste and integration testing levels. With TCAT C/C++ available testing efforts can focus on untested code than generating redundant tests. The resulting data is displayed in coverage reports, color-annotated trees and digraphs with capabilities of viewing the source code. Using recursive descent compiler technology, TCAT C/C++ produces many reports from which you can access current, past and historical test results.
<u>TCMON</u>	Testwell	Test coverage and execution profiling tool for Ada code
<u>Test Coverage</u>	Semantic Designs	Family of test coverage tools for a wide variety of languages (C, C++, C#, COBOL, Java, more...) with no probe overhead. Independent of compiler. Useful for application and embedded contexts. Graphic coverage over source code; text and XML summaries.

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Functional Test Tools

Product	Vendor	Comments
<u>.TEST</u>	Parasoft	Unit-testing tool that automatically tests classes written on Microsoft's .NET Framework without developers to write a single test scenario or stub.
<u>AETG Web</u>	Telcordia	The Telcordia Efficient Test Case Generation Service, formerly known as AETG Web, makes use of AETG, the Automatic Efficient Test Generation system. The AETG algorithms employ co-design techniques to create minimal sets of tests that cover all the pairwise interactions among values. Free trial account (14 days) available. Implemented as a service delivered via our site no software to install.
<u>Automate!Test Manager</u>	Newmerix	Automate!Test Manager is the first solution specially designed for PeopleSoft that automates functional testing process. By capturing and replaying the most important business processes of an application, any time a change is made to the application, the most important processes can be found and cost effectively tested.
<u>Automated Test Designer</u>	AtYourSide Consulting	Tool for creating Test Cases based on Functional Requirements, which can be used in a collaborative environment by all project team members and can handle changes and requirements of any complexity. It uses an advanced and rigorous Neural Network Optimization algorithm and reduction methods in order to generate the minimum number of test cases to certify 100% of the Requirements rules.
<u>AutoTester One</u>	AutoTester	Functional, regression, and systems integration testing of Windows, Client Server, Host/Local Area Network, and Database environments.

		software. Also offers a version enhanced to work with SAP applications and a load and stress engine that drives AutoTester ONE test scripts to recreate normal and peak load conditions to assess system performance.
<u>BugHuntress</u>	BugHuntress QA	BugHuntress Test Suite (BHTS) is a client-server system which is intended for full-scale automated testing of applications on handhelds and/or emulators with Palm OS 3.0-4.1. PC and Palm pad interact through the COM-port, by using the USB-bus and via the TCP/IP protocol. Automation is performed using special scenarios, scripts and control points (e.g. screen CRC, controls state databases states, etc.) which basically represent software test plan written in Java-script with commands. BHTS requires no additional hardware.
<u>CAPBAK/X, CAPBAK/MSW</u>	Software Research	Capture/playback system for X, and Windows which allows the user to record mouse movements, keyboard activities, widget calls and verification information into test scripts. Fully editable and programmable "C" language scripts make CAPBAK adaptable to your testing requirements. It synchronization features discover minor application changes during playback. CAPBAK has a Load Generation engine built-in and handles all kinds of GUI testing: Local, Client/Server, Remote/Host/target. Test can run unsupervised, as often as required. Used together with SMARTS, the sophisticated test management component that controls test execution and verification you have a perfect Regression Test Suite.
<u>Certify</u>	Worksoft	Platform neutral solution that allows development of tests without programming for Web, client and mainframe applications.
<u>CitraTest</u>	Tevron LLC	Automated software testing solution for all Citrix Environments
<u>Code Testing Tool Pro</u>	RHiTech	This tool is a convenient wrapper for your testing code and test cases. It allows doing code testing (software testing) in the next modes: single-threaded, multithreaded and stress-mode (emulating peak overloads). Support the next development environments: MS VC++, Borland C++ Builder, Borland Delphi. Installation with examples sources is included.
<u>Eggplant</u>	Redstone Software	Running on Mac OSX, Eggplant can test and automate processes on virtually any platform. Like open source VNC server software, Eggplant achieves platform independence, "seeing" the remote screen and acting as a virtual user to generate and run test scripts and to automate other tasks on the remote machine.
<u>Eventcorder</u>	CMS	Eventcorder records and plays back Windows events. It searches for 'Clickviews' and focuses on them during playback. E-Scripter is a scripting utility (VBScript) to drive Eventcorder.
<u>FERRET</u>	Azor Inc	Automated Software Testing System for Macintosh, Windows, OS/2 and X-Windows software
<u>GUITAR</u>	University of Maryland	A tool that generates new test cases using a new technology of event-flow graphs. Pre/postconditions are used to generate expected response. Coverage (event and code) is evaluated. Free.
<u>Holodeck</u>	Security Innovations	Uses fault simulation to emulate real-world application and system errors. This allows testers and developers to work in a controlled, repeatable environment to analyze and debug error-handling in hostile environments.
<u>LabitStudio</u>	Labit	Tool used to analyze what caused exceptions in your application. It helps you to analyze a real application fault without asking a user huge number of questions. Supporting standard formats like dmp-files it allows you to work with files which were created by system.
<u>MITS.GUI</u>		Has an intelligent state machine engine that makes real-time decisions for navigating through a portion of an application without scripts. Testers simply enter test data into a spreadsheet which populates the objects that appear for the particular test scenario defined.
<u>JPdfUnit</u>	OIO	Integrates PDFBox as a PDF API with the JUnit framework for the test of pdf documents so JUnit can use high level api. Simple ready-to-use assertions help to compare the expected data to the content of the pdf document.
<u>PyUnit</u>		Unit testing framework. Python language version of JUnit. Open source.
<u>QACenter</u>	Compuware	Test development and execution tool for GUI and character-based client-server software testing
<u>Replay Xcessory</u>	Integrated Computer Solutions	Automation tool for Xt/Motif applications
<u>Repro</u>	Repro Software	Records software process execution at multiple levels to provide unmatched visibility into program execution. With Repro you can record, annotate, and playback: <ul style="list-style-type: none"> • Video capture of user actions • System level traces of operations and data streams • System resource usage and performance graphs • A complete summary of the PC's configuration at the time the bug occurred

		Each captured component is viewed simultaneously during playback to give the software prof integrated and organized view of the recording along each dimension.
<u>SAP Software Quality Assurance Testing Tools</u>	Sucid	The leading provider of SAP software quality assurance testing tools and products.
<u>ScriptMap® for Siebel</u>	Serpico Software	<p>Planning and functional testing tool which focuses exclusively on Siebel applications.</p> <p>Serpico's proprietary ScriptMap technology delivers functional 'testing with context'. The key to 'testing with context' is the removal of serial scripts as the primary mode of navigation, application configuration and data entry. The absence of scripts for all aspects of the testing process enables accelerated creation of test scenarios and delivers a measurable reduction in test asset maintenance.</p> <p>Effective testing throughout the whole Siebel lifecycle finds more defects, thus lowering the risk of errors and reducing the cost of the project.</p>
<u>ScriptTech</u>	TMX	Generates test narratives and fully executable scripts for WinRunner, TestPartner, SilkTest and other automation engines without the need for understanding or knowing the underlying programming language. Provides a single point of maintenance using global "find and replace" features for object definitions and action definitions.
<u>Silktest</u>	Segue Software, Inc.	Object-oriented software testing for Windows applications
<u>Smalltalk Test Mentor</u>	SilverMark, Inc.	Automated GUI and domain object software testing tool for IBM's Smalltalk
<u>SQA Suite TestStudio</u>	Rational Software	Windows client/server testing
<u>Squish</u>	froglogic	Cross platform software testing framework for Qt/C++ applications. With no modifications to the application, it is possible to test the application using recorded or manually written test scripts in various scripting languages.
<u>TALC2000</u>	Tallecom Software	Test automation for applications on mainframe and mid range proprietary and UNIX platforms
<u>TestComplete</u>	AutomatedQA	Automated test manager, with unmatched support for unit, functional, regression, distributed and performance testing at the project level. Designed for application developers and testers alike. TestComplete will help you to achieve thorough Quality Assurance in development from the first line of code right through delivery and maintenance, with no surprises along the way. Ship superior applications, and ship them on time. Supports Delphi, Win32, .NET, Java, and Web applications.
<u>TestRobot</u>	SoftRobot	Automated software testing system. TestRobot is integrated with pattern recognition, user-action emulation and artificial intelligence. TestRobot is independent of operating system and programming language.
<u>TestWorks</u>	Software Research	Integrated suite of Automated Regression Test and Coverage Analyzers for UNIX, Windows/2000//NT/XP with multiple reports and re-usable test scripts in C, C++ and JAVA.
<u>Unified Test Pro</u>	Software Development Technologies	A "3rd generation" test automation solution, which uses a roles-based software test automation approach to Design, Build and Run test cases.
<u>Vermont HighTest Plus</u>	Vermont Creative Software	Windows capture/replay. Includes object-level and mouse-level recording, scripting, and test management.
<u>WinRunner</u>	Mercury Interactive	GUI capture/playback testing for Windows applications
<u>XRunner</u>	Mercury Interactive	GUI capture/playback testing for X applications
<u>X-Unity</u>	MIIK Ltd.	Unit testing environment for the Microsoft .NET framework

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Performance Test Tools

Product	Vendor	Comments
LoadRunner	Mercury Interactive	Integrated client, server and Web load testing tool
Monitor Master	Argogroup	Monitor Master is a quality management solution for wireless data services - WML/XHTML, GPRS/MMS. Monitor Master helps Operators and Content Developers ensure that end-users of wireless applications will have the best quality of experience possible - regardless of the handset being used.
preVue-X, preVue-ASCII	Rational Software	Load and performance testing in X Window and ASCII terminal environments
IxLoad	Ixia	A "Load Appliance" for running performance testing applications that can emulate millions of users. Ixia's portable and rack-mounted chassis provide a manageable, scalable, repeatable platform that eliminates the need for large numbers of PCs. Massive test results can be displayed in real-time and analyzed with built-in graphical reporting. Emulated protocols include HTTP, SSL, FTP, POP3, Streaming/VoIP, IPSEC, PPPoX and others.
QACenter Performance Edition	Compuware	Load testing
Scapa StressTest for Citrix MetaFrame	Scapa Technologies	Scapa StressTest for Citrix MetaFrame is a performance testing tool that tests how well MetaFrame deployments perform under variable load. The tool is highly scalable and can generate independent of systems running up to 10's of thousands of users. Available globally through Citrix partner affordable licensing and support packages, its unique n-Tier Resonance technology quickly and accurately client-server timings through direct use of the ICA channel.
Shunra\Storm	Shunra Software	Shunra's solutions enable IT professionals to pre-empt application performance problems and downtime. By creating a mirror image of the production network environment in the lab, Shunra products enable customers to accurately evaluate the functionality and scalability of network applications - before and after deployment.
SilkPerformer	Segue	Load testing
SSW Performance PRO! 97	Superior Software for Windows Pty Ltd	Essential for performance tuning your Access frontend or upsizing to SQL Server. SSW Performance PRO! analyses every form, combo and list box in your Access 97, 2000 or 2002 app. It checks statements and reports on the slowest features. It tells you exactly where to spend time that makes the difference to the speed of your application. You can also use SSW Performance PRO! after upsizing an application to SQL Server to pinpoint where tuning is required.
Vantage	Compuware	Integrated suite of application performance management products. Each product deals with a specific aspect of the application's performance across the network infrastructure.
WinFeedback	Beson Data	WinFeedback is a Windows scripting extension for testing, monitoring and automation purposes. It provides response timing, up-timing, functional testing, stress testing, health monitoring, task automation and more.
XtremeLoad	US Computer Software	XtremeLoad is a software framework for load testing of distributed software systems. It provides an extensible, scalable, and easy-to-use foundation on which you can build a comprehensive and effective load testing solution tailored to your product.

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Java Test Tools

Product	Vendor	Comments
Abbot		Abbot is a JUnit extension for testing Java GUIs. It supports recording and playback at both low and high levels of abstraction.
AdaptiveCells/J		<p>Open source J2EE benchmarking system. It enables the development of complex artificial J2EE environments without requiring a single line of code. Such test-beds can be used for:</p> <ul style="list-style-type: none"> • Performance testing : if you want to compare the performance of different application servers you need to test the functionality/performance of your server in particular contexts. • Middleware infrastructure testing : if you are developing some infrastructure software (e.g. adaptation software or a monitoring solution). • Creating working J2EE applications when you just need to have some running systems (if you are learning J2EE or you work on some other aspects of a larger system and you need a J2EE application for testing everything together).

<u>AgileTest</u>	Polygenix	Mock object implementation for unit testing both Java interfaces and classes. AgileTest works at bytecode level, enabling non-intrusive dynamic mock generation - without the generation of additional artefacts or the constraints of the Java proxy mechanism. Free for non-commercial use.
<u>Agitator</u>	Agitar	Helps developers create and maintain unit tests for all their code.
<u>AppPerfect DevSuite</u>	AppPerfect	Suite of products designed to help you design and build high-performance applications during the development phase of the product-development life-cycle. The AppPerfect DevSuite consists of Code Analyzer J2EE / JVM Profiler, Functional Tester, Load Tester.
<u>Bugkilla</u>		Set of java tools (open source) for the functional test of J2EE Web Applications. Specification and of tests will be automated for web front end and business logic layer. One goal is to integrate with frameworks and tools. We started with eclipse struts and junit integration.
<u>Cactus</u>	Jakarta Project	A simple test framework for unit testing server-side java code (Servlets, EJBs, Tag Libs, Filters, ...). intent of Cactus is to lower the cost of writing tests for server-side code. It uses JUnit and extends
<u>GJ-Coverage</u>	Tester's Edge	Coverage tool for Java programs of all types: J2ME, J2SE, and J2EE. Features ease of use, low HTML reports, branch level coverage, test case breakdowns, and more.
<u>GJTester</u>	TreborSoft	Java testing tool that provides a GUI to aid developers in building test cases and test scripts. It allows testers to accomplish unit and regression test without programming effort. The tool is useful for testing CORBA, RMI and other server technologies as well.
<u>JCover</u>	Codework	Java code coverage testing
<u>JCover</u>	Man Machine Systems	Java code coverage
<u>Jemmy</u>		An open source library that can be used to create tests for Java GUI applications.
<u>JMeter</u>	Apache	Java desktop application designed to load test functional behavior and measure performance. Open Source
<u>JStyle</u>	Man Machine Systems	Java source code analyzer.
<u>JSystem</u>		Framework for writing and running automated tests, based on JUnit. Its main goal is to support automated functional/system testing.
<u>jtest</u>	Parasoft	Java class testing
<u>JUnit</u>	junit.org	Regression testing framework for the developer who implements unit tests in Java. Open Source
<u>JVerify</u>	Man Machine Systems	Java unit/integration testing.
<u>KCC</u>	Kalog	Code coverage computation application written in Java. Its main features are: in-process or remote computation, capability of working directly on Java binaries (no recompilation), predefined (XML, LaTeX, CSV, TEXT) or custom report generation, session merging, portability, ease-of-use, Ant interface.
<u>LISA</u>	iTKO	Uses "inline testing" technology to talk to every component within your infrastructure. One-click workflow enables even non-developers to connect to, analyze and interact with live EJBs, databases, message queues and web services/SOAP objects.
<u>Panorama</u>	ISA	Visual environment for Java/C/C++/VB software testing, quality assurance, documentation, and management. Runs on Unix/Linux/Windows 95/98/NT/2000
<u>Marathon</u>		<p>Testing framework for GUI applications developed using Java/Swing. Marathon composes of recorder, runner and editor. The testscripts are composed of python code.</p> <p>Marathon focuses on end-user testing. One need not know Java or Swing to record test scripts using Marathon. Marathon is kept intentionally simple. The aim is to produce test scripts that are readable by everyone on the project. This includes the developers, testers and the customers. Marathon is flexible and provides facilities to extend the functionality available through python scripts or through writing our own component resolvers.</p> <p>Marathon captures the semantic actions on components instead of the mouse & keyboard events. This results in scripts that are simple and at a higher granular level. Marathon suites well for applications that mostly depend on forms-paradigm. Open source.</p>
<u>QA J</u>	Programming Research	Static analysis checks and metrics that detect inconsistencies and errors in language implementations as well as source code issues involving standards compliance, programming practices and performance, enabling fast and efficient development of robust software.
<u>QEngine</u>	AdventNet	Automated testing tool that helps in building high-quality J2EE/J2SE applications with consistent results.

		predictable behavior. It supports server-side unit, functional, performance, stability and regression testing.
qftestJUI	QFS	Tool for the creation, execution and management of tests for Java/Swing applications with a graphical user interface (GUI). It runs on Windows and all major Unix systems with JDKs from Sun, IBM and Bla from 1.1 through 1.4.
QStudio Enterprise	QA Systems GmbH	A tool to objectively assess the quality of your Java and .NET software. It works by integrating standard 3rd party code analyzers with a sophisticated ISO 9126 Standard software quality model.
TCAT/Java	Software Research	Code coverage analyzer for Java. Features true 32-bit native executables, advanced compiler-based source-language scanning technology, improved runtime support, and full GUI access to a project and method digraphs, and current and past-test coverage data at the branch (C1) level.
TrueJ	Bluebay Systems	Applies industry-standard audits and metrics to Java source to help improve quality, accelerate a your review process

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Embedded Test Tools

Product	Vendor	Comments
Message Magic	Elvior	Tests embedded software components - processes, subsystems, etc. With MessageMagic, one can certain component by simulating its neighbour components. Contains tools for visualization of messages (also ASN.1 messages) between the testable component and their simulated counterparts.
Rational Test Real Time	Rational	Test and runtime observation solution for embedded, real-time and networked systems created in an development environment. Provides software testing, code coverage, memory leak detection, performance profiling, and UML tracing. For C, C++, and Ada code.
Reactis Tester	Reactive Systems	Generates comprehensive test suites from Simulink/Stateflow models. The test suites exercise large the software under test while avoiding redundancy, thereby maximizing the probability of finding defects in the time available for software testing. The generated tests store model-generated outputs as well as that Tester-generated test harnesses can automatically check the correctness of source code implementations of models.
Tessy	RazorCat Development	Offers module testing of C code directly on the target system using standard debugging technology. In the whole unit testing cycle and works transparently on all supported target debuggers.
TestQuest Pro	TestQuest	Automated testing of any mobile device or application, tests the actual end-user experience, and allows of multiple devices, enabling end-to-end testing.
VectorCAST	Vector Software	Vector Software's VectorCAST is a world-class integrated software test solution that automates the tasks associated with testing software components for C/C++, Embedded C++, and Ada83/Ada95 program. Automation includes: complete test harness construction, test generation, test execution, code coverage analysis, regression testing and static measures for code complexity and basis path analysis. VectorCAST enables companies to significantly reduce the time, effort and cost to validate safety (DO-178B), mission-critical business critical systems. VectorCAST is customized to the target CPU, cross compiler and run-time environments for leading embedded development tools from: Wind River Systems, Green Hills, TI, Renesas, Cosmic, Tasking, Mentor Graphics, Analog Devices, and MetaWare.

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Data Base Test Tools

Product	Vendor	Comments
AETG	Telcordia	The AETG algorithms employ combinatorial design techniques to create minimal sets of tests that cover pairwise interactions among input values.
ALLPAIRS	Satisfice	Generates combinations of variables and values to achieve representative test coverage. Free.
Data Factory	Quest Software	Data generator tool and data manager for database testing
Data Generator	GSApps	Test data generator, used for creating intelligent data in almost any database or text file. GS DataGenerator enables users to:

		<ul style="list-style-type: none"> • Complete application testing by inflating a database with meaningful data • Create industry-specific data that can be used for a demonstration • Protect data privacy by creating a clone of the existing data and masking confidential values • Accelerate the development cycle by simplifying testing and prototyping
DataRecon	ParaSoft	Database testing and reporting tool
DataTect	Banner Software	Data generator for flat files or RDBMS. Offers an interface to Segue SilkTest
Jenny		JENNY is a free tool similar to AETG and ALLPAIRS. Given many dimensions of a piece of software, several possible features per dimension, and some restrictions saying which features cannot be used together, JENNY will recommend tests that cover all pairs or triples of allowed feature combinations. For example, given 20 dimensions, 10 features each, JENNY recommends 210 testcases.
SQL Tuner	Embaradero	Eases the complexity of writing high-performance SQL code by providing built-in help for writing syntactically correct SQL, and by assisting in every aspect of complex tuning efforts.
SQS/Test Professional	SQS	Develops business-oriented requirements for test data - usually for individual functions in an application. The necessary data is input (e.g. in a dialog) to ensure that all critical processes in an application are covered.
TurboData	Canam Software	Test data generator. Generates very realistic test data with foreign keys resolved automatically. Also generates Select, Update and Delete SQL. TurboData includes an SQL Builder, Grid Data Editor and has full Visual Control. Free trial version never expires.
utPLSQL		Open source, unit-testing framework for Oracle PL/SQL developers.

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WEB TEST TOOLS

Link and HTML Test Tools

Product	Vendor	Comments
AccVerify/AccRepair	HiSoftware	Verify, Correct, Monitor and Manage your WebSite and Web Based Applications for Section 508 compliance.
ChangeAgent	Web site repair and maintenance application.	
CSE HTML Validator	AI Internet Solutions	HTML, XHTML, CSS, link, spelling, and accessibility checker available. Windows application.
Cyber Spyder Link Test	Aman Software	Web site management program to be used for verifying that the URLs on a site are valid and for analyzing site content. Shareware.
Dead Links	Dead Links	Free online spider based link checker. You only have to input the index page and the spider will crawl your website looking for broken links. Also gives advices for search engines.
HTML Candy	Anetto Software	New-age software for final preparation of HTML pages. It is able to fix up a wide range of problems with HTML syntax, including tags, styles, attributes, attributes' values, dependencies and obsolete elements and attributes.
HTML PowerTools	Talicom	Suite of Windows tools for HTML checking, spelling, etc.
HTML Tidy	W3C	A very nice tool that fixes common errors and pretty prints HTML. Free.
InFocus	SSB Technologies	Tool for making Web sites compliant with Section 508 requirements for access by blind individuals with disabilities.
Link Checker Pro		Link Checker Pro is a link checking tool for websites and has been tested on sites containing more than 100,000 links. It can export results in a number of formats and provide a graphical view of the website structure.
LinkRunner	Viable Software Alternatives	Dead link detector for Windows
LinkScan	Elsop	Dead link detector
LinkSleuth	Xenu	Dead link detector. Free

<u>Link Validator</u>	REL Software	Link checker and site management tool for webmasters to check links for accuracy : availability, find broken links and links containing syntactic errors. A free "lite" version offered.
<u>MOMspider</u>	UCI	Robot link checker. Free
<u>Ramp Ascend</u>		Testing and remediating websites and web based applications for integrated access Section 508 and WCAG compliance.
<u>Real Validator</u>		HTML syntax checker for Windows
<u>WebLight</u>	Illumit	Finds broken links and markup problems, and identifies relationships between URL's
<u>WebQA</u>	Watchfire	Report on over 40 errors including, Search engine optimization, Site inventory, Web accessibility (now includes Bobby reports, Section 508, W3C's WCAG), Corporate sites Can also manage meta data and create automated test scripts to test site functionality

On-line Link and HTML Test Services

Product	Vendor	Comments
<u>Audit Blossom</u>	Blossom Software	Low cost web site audit service.
<u>Bobby</u>	CAST	Help make pages accessible to people with disabilities (WAI and Section 508 compliant) will also find HTML compatibility problems that prevent pages from displaying correctly in different browsers. Free
<u>CSSCheck</u>	Web Design Group	On-line cascading Style sheet checker. Free
<u>CSS Validation Service</u>	W3C	Free service that checks Cascading Style Sheets (CSS) in (X)HTML documents or standalone for conformance to W3C recommendations
<u>Doctor HTML</u>	Imagiware	Retrieves an HTML page and reports on any problems that it finds.
<u>Dr. Watson</u>		HTML checking service. Free.
<u>HTML Validator</u>	WDG	Online service that validates HTML documents. Free
<u>HTML Validation Service</u>	W3C	Online service that checks HTML documents for conformance to W3C HTML and XML Recommendations and other HTML standards. Free
<u>Link Alarm</u>	LinkAlarm	Online service for detecting broken links
<u>NetMechanic</u>	Monte Sano Software	Service which searches your site to find broken links, spot bad HTML tags, and rate server's response time. Commercial but offers free trials
<u>SiteAnalysis</u>		Site monitoring, hosted service used to periodically test and validate critical website components, such as internal and external links, domain names, DNS servers and certificates.
<u>Site Check</u>	UITest.com	Enter a URL and it runs HTML and stylesheet validators, accessibility assessment, load time check, and more using free online web test tools.
<u>SiteTechnician</u>	SiteTechnician	Hosted management solutions. Identifies broken links, analyzes accessibility, recommends search engine optimization, monitors page load times, and helps you manage changes to your site over time.
<u>Validation Spider</u>	Dead Links	Free dead link checker
<u>W3C Link Checker</u>	W3C	Free dead link checker
<u>Weblint Gateway</u>	San Francisco State University	Performs an HTML error scan and creates an HTML listing with error messages in the code and tags, URLs, and error messages highlighted in color
<u>Web Page Backward Compatibility Viewer</u>	Delorie Software	On-line utility that serves a page based on how various browsers would render it.
<u>Web Page Purifier</u>	Delorie Software	On-line utility that maps a page to HTML 2.0, HTML 3.2, HTML 4.0, or WebTV 1.1. Free.
<u>XML Validation</u>	Scholarly Technology Group	Validates XML documents. Free.

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Functional Test Tools

Product	Vendor	Comments
actiWATE	Actimind	Freeware web application testing environment. actiWATE Framework is written in Java and Java i writing tests.
Astra QuickTest	Mercury Interactive	Web site functional testing
AutoTester One	AutoTester	Functional, regression, and systems integration testing of Windows, Client Server, Host/Legacy, o applications.
Badboy	Badboy Software	Provides an enhanced browser interface to aid in building and testing dynamic applications. Combines capture/replay ability with performance testing and diagnostic features to allow developers to closely understand the interactions between the browser and the server. Free for small users.
Canoo WebTest	Canoo	Canoo WebTest is a free open source tool for testing of web applications. It calls pages and verifies results, giving comprehensive reports on success and failure.
eValid	Software Research	Test enabled Web Browser. Provides Browser-Based Client-Side WebSite quality checking for Functional Testing, LoadTest, Site Analysis (SiteMap), Performance check and page tuning.
IeUnit		Simple framework to test logical behaviors of web pages. It helps users to create, organize and execute functional unit tests. IeUnit is implemented in JavaScript for the Windows XP platform with Internet Explorer.
Imprimatur		Web application testing tool. The tests are described in a simple XML file. Along with the standard POST actions, Imprimatur handles HTTP sessions and file uploads. The responses can be validated using regular expressions and response code checks. Open source.
Internet Macros	Opus	Low cost automation testing
HTTP::Recorder	Opus	Browser-independent recorder that records interactions with web sites and produces scripts for automated playback. Open source (Perl module)
iRise Application Simulator	iRise	Allows the definition, testing and approval of Web-based business software before developers write a line of code. Users validate requirements from a visually accurate, functionally rich and interactive model of the application that can be modified on the fly during feedback sessions.
ITP	Incanica	Web application testing harness. Lightweight, yet powerful! Test scripts written in XML. No program required! No changes required to your application. Supports sessions/cookies, POST form data. Can be run in-line based for integration into other tools. Open source.
LISA	iTKO	No-code, enterprise-strength automated testing solution for J2EE applications, websites and web services. LISA uses "inline testing" technology to talk to every component within your infrastructure. New or existing wizards enable even non-developers to connect to, analyze and interact with live EJBs, databases, messaging layers and web services/SOAP objects.
MaxQ	Bit Mechanic	MaxQ is a free functional testing tool. It includes an HTTP proxy that records your test script, and a line utility that can be used to playback tests. The proxy recorder automatically stores variables per session, so you don't have to write that stuff by hand. The paradigm of MaxQ is similar to commercial products like Astra QuickTest or Empirix e-Test. These products are quite expensive. MaxQ hopes to provide the same features: HTTP test recording, scripting, and playback without the huge cost. Source code to MaxQ is provided as part of the distribution.
PesterCat	PesterCat	Web testing tool that was designed to perform functional testing for web applications. PesterCat features an integrated proxy recorder that enables you to record scripts using your favorite web browser. PesterCat runs on Linux, Mac OSX, and Windows.
QA Wizard	Fox Data	Whether you are testing Web-based applications or Web sites, Windows applications, or Java applications, QA Wizard is the perfect testing solution. All members of the QA Wizard product family share a common development environment that we call the Integrated Testing Environment (ITE). Your experience testing Web-based applications is easily transferred to testing Windows or Java applications.
QA Wizard	Seapine	Automated functional testing tool for Web-based apps. Automated scripting allows the creation of scripts in less time. Advanced object binding greatly reduces script changes when Web-based applications change. FREE QA Wizard Demo and Test Script!
Rational Robot	Rational Software	Automated functional, regression, and smoke tests for e-applications
SAMIE		Simple Automated Module For Internet Explorer. Perl module (SAM.pm) that allows a user to automate Internet Explorer. This free tool is designed for quality assurance engineers that need to run tests on browser applications. (Windows only)

<u>SilkTest</u>	Segue Software, Inc.	Enterprise-class web testing
<u>SoapTest</u>	Parasoft	Automated tool for testing Web services. SOAPtest helps you to prevent errors by performing server functional testing, load testing, and client testing with just the click of a button. SOAPtest facilitates functional testing by automatically creating a test suite from a WSDL document that tests every operation associated with that document. The same test suite used for server functional testing can also be used for a load test suite that not only monitors the servers response rate with the specified number and mix of simultaneous requests, but also verifies whether the test loads cause functionality problems. You have SOAPtest emulate a server and verify that the client sends appropriate requests to the appropriate services, and that the client handles the services responses as expected.
<u>Solex</u>	NEOMAlogic	Solex is an open source Web application testing tool built as a plug-in for the Eclipse IDE. It provides functions to record a client session, adjust it according to various parameters and replay it later typically in order to ensure non regression of a Web application's behaviour.
<u>swete</u>	Neal Lester	Provides cross platform console based tools for regression testing of web applications. The tools are used when refactoring and during development to ensure that new functionality doesn't break previously completed features. Open source.
<u>TestSmith</u>	Quality Forge	Functional/Regression Test Automation Tool for Windows. Web Site and Web Application testing both at the HTML Document Object Model (DOM) level and the Windows object level, as appropriate.
<u>TestWeb</u>	Original Software	Automation solutions for IBM iSeries, Microsoft, and Oracle.
<u>WebInject</u>	WebInject	WebInject is a free tool for testing of web applications and services. It can be used to test any individual system component with an HTTP interface (JSP, ASP, CGI, PHP, Servlets, HTML Forms, etc), and can be used as a test harness to create a suite of [HTTP level] functional, acceptance, and regression tests. The test harness (also referred to as a test driver or a test framework) allows you to run many test cases and collect/report your test results.
<u>WebKing</u>	ParaSoft	White-box, black-box, and regression testing
<u>WSUnit</u>		WSUnit is a tool that can help you test Web Service consumers. It provides a predictable and repeatable simulation of a Web Service that is ideal for unit testing.

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Performance Test Tools

Product	Vendor	Comments
<u>ANTS</u>	Red Gate	Load and scalability testing of .NET web services and applications
<u>Astra LoadTest</u>	Mercury Interactive	Load testing tool for Web-based system
<u>Dotcom-Monitor</u>	Dana Consulting	Dotcom-Monitor.com simulates real users by using its remote agents positioned around the globe. You setup the conditions for the web site or web application you would like to stress test.
<u>EasyWebLoad</u>	PrimeMail	Simple to use quality assurance web site load testing tool. With it you can load test your company's website and find out if it can handle the number of visitors you think it can - or have a design requirement. You can load test one page or test your entire site.
<u>Extreme Test</u>	Embarcadero	Next-generation testing solution for measuring and analyzing the performance of enterprise applications. Extreme Test is the perfect tool for IT professionals who are responsible for: Performance of Web-based enterprise applications, Scalability of database servers on a variety of platforms, Migration of critical application infrastructure to run on Linux.
<u>forecast</u>	Facilita	Suite of tools for system load testing, performance measurement and multi-user functional testing.
<u>http_load</u>	Acme Software	Free Unix-Based load generator for web servers.
<u>httperf</u>	HP Research Labs	Flexible facility for generating various HTTP workloads and for measuring server performance. Distinguishing characteristics of httperf are its robustness, which includes the ability to generate and sustain server overload, support for the HTTP/1.1 protocol, and its extensibility to new workload generators and measurements. Free as source code.
<u>Jblitz</u>	Clan Productions	Load testing tool aimed at smaller sites.
<u>Microsoft</u>	Microsoft	Designed to stress test Web servers and analyze performance and scalability problems with Web applications.

<u>Application Center Test</u>		applications, including Active Server Pages (ASP) and the components they use. Simulates a large number of users by opening multiple connections to the server and rapidly sending HTTP requests. Supports several different authentication schemes and the SSL protocol, making it ideal for testing personally secure sites.
<u>NeoLoad</u>	Neotys	NeoLoad simulates hundreds of virtual users on your web site, getting performance statistics and revealing errors under stress. Free eval download.
<u>OpenLoad</u>	OpenDemand Systems	Web testing tool used to simulate hundreds or even thousands of users simultaneously access a site or application
<u>OpenSTA</u>	OpenSTA	A distributed software testing architecture based on CORBA. OpenSTA is designed to be used by Performance Testing Consultants or other technically proficient individuals. Using OpenSTA, you can generate realistic heavy loads simulating the activity of hundreds to thousands of virtual users. This capability is fully realized through OpenSTA's distributed testing architecture. OpenSTA graphs virtual user response times and resource utilization information from all Web Servers, Application Servers, Database Servers and Operating Platforms under test, so that precise measurements can be generated during load tests and analysis on these measurements can be performed. OpenSTA is Open Source software licensed under the GNU General Public License.
<u>Portent</u>	Loadtesting.com	Load testing tools for enterprise-scale web sites and applications
<u>PowerProxy</u>	Orderly Software	PowerProxy is a load-testing HTTP proxy with features that can help you browse or buy products from web servers.
<u>PureLoad</u>	NFG Global	Load testing tool that simulates hundreds of users executing requests against server based applications
<u>QuotiumPro</u>	Quotium	Professional load testing tool that analyses and predicts application behavior and performance across the entire architecture by emulating very large numbers of realistic users, as well as sharp load variations.
<u>Siege</u>	Joe Dog	Open Source HTTP performance testing tool for UNIX systems.
<u>SilkPerformer</u>	Segue	Web server load testing
<u>StressIT</u>	Synametrics	StressIT is a robust stress testing application that accurately simulates the number of users you maintain. It will allow you to chart the breaking point at which your site's performance is no longer acceptable, and will allow you to pinpoint the bottlenecks preventing your site from reaching its maximum levels. StressIT allows you to define relevant use-case scenarios for your site; this customization lets you to test all aspects of your complex multi-tiered web-based application.
<u>Site Tester 1.0</u>	Pilot Software	SiteTester is a load-testing utility designed to test web servers and web applications. SiteTester allows concurrent access of various users from different hosts to a web/application server. Each virtual user follows a predefined procedure to access the server. By increasing the number of virtual users, you can test the capacity of your servers and determine the extra hardware and bandwidth needs, if any. SiteTester1.0 is a JDK1.2 compatible Java application and is available for the Windows and UNIX environments.
<u>TestMaker</u>	PushToTest	Open source framework to build intelligent test agents that test Web services (HTTP, HTTPS, SOAP, Servlet, JSP, EJB, ActiveX, .NET) for scalability and performance. Written in Java and runs everywhere Java runs, including Windows, Linux, Solaris, Macintosh and more.
<u>WAPT</u>	Novosoft	Performance, load and stress testing tool for Web sites and intranet applications. Supports all security features related to HTTPS/SSL. Testing of sites protected with basic authorization is also supported. Capabilities of run-time test data generation. The values of request parameters and URIs can be changed in a number of ways.
<u>Web Application Stress Tool</u>	Microsoft	Simulation tool that is designed to realistically reproduce multiple browsers requesting pages.
<u>Webload</u>	Radview Software	Performance tool for testing Internet and Intranet applications
<u>WebPartner TPC</u>	WebPartner	WebPartner's Test and Performance Center measures website performance from a customer's perspective combining ease of use and performance at an incredible value to meet all of your IT Diagnostics and Monitoring needs. The WebPartner Test and Performance Center web-based interface allows you to quickly FIND, FIX and PREVENT bottlenecks and failures within your application inside or outside your firewall.
<u>Web Performance Trainer</u>	Web Performance	Web Performance tester. For Windows and UNIX.
<u>Web Polygraph</u>		Freely available benchmarking tool for caching proxies, origin server accelerators, L4/7 switches, filters, and other Web intermediaries
<u>Web Roller</u>	Novosoft	Performance and load testing for web and Intranet applications

<u>Web Server Stress Tool</u>	Paessler	Load test application for web servers
<u>WebSizr</u>	Technovations	Performance Analysis and Sizing framework for HTTP based Servers and applications

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Performance Test Services

Product	Vendor	Comments
<u>CapCal</u>	CapCal	Technology for measuring the capacity and performance of any server or Web site from a distributed network of computers inside or outside the corporate firewall. The CapCal technology is the only solution that can provide end-to-end Web measurement and analysis. It is available as a locally- or remotely-delivered service bureau, a hosted hourly subscription service, a licensed software package, and as a pre-configured appliance that you own/licensed outright or rented on an as-needed basis.
<u>Load Gold</u>	ApTest	Outsourced Load Testing. Combining Open source tools with our staff's expert consulting and technology to support your team.
<u>LoadPro</u>	Keynote	Outsourced Load Testing. Our testing consultants load test your site with real-world Internet traffic and help you uncover problems before they impact your customers and your bottom line.
<u>Test Perspective</u>	Keynote	Cost-effective, self-service solution that enables you to run diagnostic and load tests on demand and receive immediate feedback on modifications you make to your Web site or any other aspect of your network.
<u>webStress</u>	Moniforce	Web performance and stress testing services.

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BUG TRACKING TOOLS

WEB BASED BUG TRACKING

Product	Vendor	Comments
<u>Aardvark</u>	Red Gate Software	Web based and hosted offerings
<u>AceProject</u>	Websystems	Free bug tracking software designed for project managers and developers. Try the demo version then create your free account.
<u>AdminiTrack</u>	AdminiTrack	Hosted issue and bug tracking application
<u>ADT Web</u>	Borderwave	Advanced Defect Tracking Web Edition is a defect-tracking solution designed for small, medium and large software companies to simplify their bug, suggestion and feature request tracking. The system allows you to track defects, feature requests and suggestions by version, customer etc.
<u>Bug/Defect Tracking Expert</u>	Applied Innovation Management	Web-based bug tracking software
<u>BugAware.com</u>	bugaware	Bug tracking solution. Installed and ASP hosted service available. Features include: Email alert notification, knowledge base, dynamic reporting, team management, user discussion threads, attachments, searching.
<u>bugcentral.com</u>	bugcentral.com	Web based defect tracking service
<u>BUGtrack</u>	SkyeyTech, Inc.	Web based bug tracking system
<u>BugHost</u>	Active-X.COM	BugHost is a feature-complete hosted defect tracking system ideal for small- to medium-sized companies who want a secure, Web-based issue and bug management system. There is no software to install; it can be accessed from any Internet connection. Designed from the ground up, the system is extremely powerful, and customizable to meet your needs.
<u>BugRoster</u>	Codeca Corp.	Multi-user bug tracking and reporting system that is informative, concise and easy to use. Our sales model is not complicated and is affordable to all software development organization

		independent/freelance consultants. BugRoster is easy to install and configure on multiple server platforms. BugRoster contains many of the features of other expensive Defect Tracking systems.
BugStation	Bugopolis	Web-based server appliance featuring Bugzilla with many enhancements designed to make it easier and more secure. A centralized system for entering, assigning and tracking defects. Completely customizable.
Bug Tracker Software	Bug Tracker Software	Web based bug tracking and data sharing
Bug Tracking	Bug-Track.com	Free defect tracking system. Our system is fast and easy to use. We offer email notification, attachment, tracking history, bilingual pages, 128-bit encryption connection and advance customization. Free demo.
Bugvisor	softwarequality, Inc.	Enterprise solution for capturing, managing and communicating feature requests, bug reports, and project issues from emergence to resolution with a fully customizable and controllable workflow.
Bugzero	WEBsina	Web-based, easy-to-install, cross-platform bug tracking system
Bugzilla	Bugzilla.org	Highly configurable Open source defect tracking system developed originally for the Mozilla project.
Census BugTrack	MetaQuest	Fully customizable bug tracking and defect tracking tool. Includes VSS integration, notification workflow, reporting and change history.
DefectTracker	Pragmatic Software	Subscription-based bug/problem tracking solution
DevTrack	TechExcel	Web-based defect- and project-tracking tool for software development teams. DevTrack completely tracks and manages all defects, change requests, feature enhancements, and all other development issues. Intuitive and powerful, DevTrack provides workflow and process automation features, searching and reporting, and comprehensive point-and-click customization.
Dragonfly	Vermont Software Testing Group	Web-based, cross-browser, cross-platform issue tracking and change management for software development, testing, debugging, and documentation. It is available by subscription or for purchase as a self-hosted intranet/Internet application.
EasyProjects	Logic Software	Web-based Project Management Software, which includes Issues (Bugs) and Customers requiring tracking, multi-nesting projects and other useful features.
ExDesk	ExDesk	Bug and issue tracking software, remotely hosted, allows you to track software bugs and report them to multiple developers or development groups for repair with reporting and automatic notifications.
FogBUGZ	Fog Creek S/W	Web-based bug tracking. Free eval, 90 day money back guarantee.
Fast BugTrack	AlceaTech	Web-based bug tracking
Footprints	Unipress	Web-based issue tracking and project management tool
GranPM	Gran Ltd.	Free defect tracking service. Bug and user hierarchy, complex security, persistent task filters, uploading, submit bugs from your site, e-mail notification and employee timesheet tracking.
IssueTrak	Help Desk Software Central	Offers issue tracking, customer relationship and project management functions.
JIRA	atlassian	J2EE-based, issue tracking and project management application. Extensible via Java API.
Jitterbug	Samba	Freeware defect tracking
Mantis		Lightweight and simple bugtracking system. Easily modifiable, customizable, and upgradeable. Source code available.
MyBugReport	Bug Tracker	Online testing tool that allows the different participants working on the development of a software multimedia application to detect new bugs, to ensure their follow-up, to give them a priority and to manage them within the team.
Ozibug	Tortuga Technologies	Platform-independent defect tracking system. Written in Java, it utilizes servlet technology and features such as reports, file attachments, role-based access, audit trails, email notifications, internationalization, and a customizable appearance. Two editions of Ozibug are available, the featured Enterprise Edition including support and upgrades is available for purchase online through a secure payment server, while the basic Community Edition is available at no cost.
Perfect Tracker	Avensoft	Web-based defect tracking
ProblemTracker	NetResults	Web-based collaboration software for issue tracking; automated support; and workflow, process and change management.

<u>PR Tracker</u>	Softwise Company	Tracks defect reports
<u>SpeeDEV</u>	SpeeDEV	Start using this from the very beginning of the project to track any kind of issue (Business, Tech Bugs, Infrastructure); Rule-based assignment of issues for resolution; Notification/ Reminder for deadlines; Tracing Issues back to Requirements; Statistical Matrix for analysis. A complete view of a multi level role based process can be defined for different types of issues with conditional logic and automated task generation.
<u>Squash 'Em</u>	Desertware Technologies	Bug tracking system written in C#.
<u>Squish</u>	Information Management Systems, Inc.	Web based issue tracking
<u>Task Complete</u>	Smart Design Team	TaskComplete enables a team to organize and track software defects using integrated calendar, discussion, and document management capabilities. Can easily be customized to meet the needs of any software development team.
<u>teamatic</u>	Teamatic	Free enterprise defect tracking system
<u>TeamTrak</u>	Teamshare	Problem tracking system
<u>TrackStudio</u>	TrackStudio	Flexible and customizable Java-based defect tracking software. Supports workflow, multi-level rule-based email notification, email submission, subscribe-able filters, reports. Has skin-based interface. Supports ORACLE, DB2, MS SQL, Firebird, PostgreSQL, Hypersonic SQL and more. Some features may not be free, depending on how you intend to use it.
<u>yKAP</u>	DCom Solutions	Uses XML to deliver a powerful, cost effective, Web based Bug/Defect tracking, Issue Management and Messaging product. Apart from having a pleasing interface and being easy to learn, yKAP features include support for unlimited projects, test environments, attachments, exporting data into PDF/RTF/XLS/HTML/Text formats, rule-based email alerts, exhaustive search options, saving (public/ private), Auto-complete for user names, extensive reports, history, custom report style, exhaustive data/trends analysis, printing, role-based security. Apart from pre-defined values, yKAP allows the user to add custom values for system parameters such as Status, Defect cause, Defect priority, etc. yKAP is installed with complete help documentation.

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BUG TRACKING APPLICATIONS

Product	Vendor	Comments
<u>assyst</u>	Axios Systems	Offers a unique lifecycle approach to IT Service Management through the integration of all ITIL processes in a single application.
<u>BridgeTrak</u>	Kemma Software	Record and track development or customers issues, assign issues to development teams, create release notes and more. Free trial.
<u>BugCracker</u>	Fe Software and Development	Change request tracking software
<u>BugRat</u>	Giant Java Tree	Free Java software that provides a defect reporting and tracking system. Bug reporting by the Web browser or via email.
<u>ClearDDTS</u>	Rational Software	Change request management software for UNIX
<u>Defect Agent</u>	Inbone Software	Defect tracking, enhancement suggestion tracking, and development team workflow manager. Site license fee \$399
<u>Defect Manager</u>	Tiera Software	Manages defects and enhancements through the complete entire life cycle of product development and field deployment
<u>Developwise IMS</u>	Korbitec	Feature-rich incident management and defect-tracking system. With its familiar Explorer interface you will feel right at home getting on top of those incidents from the word go!
<u>Fast BugTrack</u>	Alcea	Bug Tracking / Defect Tracking / Issue Tracking - Change Management Software (work flow/process management)
<u>GNATS</u>	GNU	Freeware defect tracking software.
<u>IssueView</u>	IssueView	SQL server based bug tracking with Outlook style user interface.

<u>IT Tracker</u>	Cowlsntants	ITracker is a Java J2EE issue tracking system designed to support multiple projects with independent databases. It supports features such as multiple versions and project components, detailed histories, user permissions and multiple email notifications.
<u>JIRA</u>	Atlassian	Browser-based J2EE defect tracking and issue management software. Supports any platform that 1.3.x.
<u>ProjectTrak</u>	Eden Communications	Lotus Notes based defect reporting and tracking
<u>PVCS Tracker</u>	Merant	Automated issue management system, available as a standalone product or hosted service. Cap manages, and communicates the myriad issues, change requests, development tasks, and other items that constitute your organization's daily workflow. Team members are relieved of time-consuming manual task management, and managers can pull reports from real-time data to support project with facts rather than guesswork.
<u>QAW</u>	B.I.C Quality	Developed to assist all quality assurance measurements within ICT-projects. The basic of QAW is a structured way of registration and tracking issues (defects).
<u>Support Tracker</u>	Acentre	Web enabled defect tracking application, one of the modules of the Tracker Suite software pack. Support Tracker is based on Lotus Notes, allowing customers to leverage their existing Notes infrastructure for this bug tracking solution. Because Tracker Suite is server-based, Support Tracker installs without impact on the desktop. User can create, track, and manage requests through Notes or over the Web. Requests are assigned, routed, and escalated automatically to Service Level Agreements, for prioritization and resource allocation. Support Tracker also features FAQ and Knowledgebase functionality.
<u>SWBTracker</u>	software with brains	Bug tracking system
<u>TestTrack Pro</u>	Seapine Software	Delivers time-saving features that keep everyone involved with the project, informed and on schedule. TestTrack Pro is a scalable solution with Windows and Web clients and server support for Windows, Solaris, and Mac OS X, integration with MS Visual Studio (including .NET) and interfaces with most source code managers including Surround SCM, and automated software testing tool, QA Wizard, with other Seapine tools. Download a free Eval.
<u>Track</u>	Soffront	Defect tracking system
<u>Visual Intercept</u>	Elsinore Technologies	Bug tracking system designed to integrate with Visual SourceSafe and the rest of your Microsoft development environment
<u>ZeroDefect</u>	ProStyle	Issue management

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TEST MANAGEMENT TOOLS

Product	Vendor	Comments
<u>ApTest Manager</u>	ApTest	Affordable enterprise class test management. Web based test repository, test execution, report generation, regression testing. Access control, schedule tracking, fully customizable, management and technical reports, test assignment to testers, bug tracking and source control integration.
<u>Digital Tester</u>	Digital Tester	Digital Tester is a test data management tool. The built in reports help you generate common test documents at the touch of a button. Designed to work in heterogeneous environments you can reduce the TCO(Total Cost of Ownership) by leveraging open source technologies (like Linux and PostgreSQL) saving you money on costly Windows licences.
<u>Extended Test Plan</u>		Windows-based test management. Freeware.
<u>QADirector</u>	Compuware	Test process management
<u>SilkPlan Pro</u>	Segue Software	Quality management system with a built-in integrated end-to-end test management and collaboration framework designed for large-scale applications.

T-Plan Professional	T-Plan, Limited	Test process management tool
TestDirector	Mercury Interactive	Test management system
Test Manager Adaptors	RingZero	<p>Test Input Adapters, which enable you to use requirements management tools other than IBM/Rational RequisitePro to create and manage requirements that drive your testing process in conjunction with IBM/Rational Test Manager. Borland CaliberRM Adapter, Telelogic DOORS Adapter, Rational ClearQuest Adapter.</p> <p>Test Execution Adapters, which enable you to use testing tools other than IBM/Rational Robot/XDE Tester to implement tests in conjunction with IBM/Rational Test Manager. Segue SilkTest Adapter, Mercury Astra QuickTest Adapter, Mercury WinRunner Adapter.</p>
TestLog	Passmark	Windows-based Test management.

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API TEST TOOLS

Product	Vendor	Comments
ADL project repository		Information on the Assertion Definition Language, an automated test generation system. ADL information is also available on the WWW
MITS.Comm		Simulates third party systems over any type of interface. It can simulate the context-sensitive responses that come back from Equifax, for example, when testing an application that does a credit check. Or it can simulate the connections to the telemetry and cryptologic systems on a communications satellite, so that the software can be tested while the interface hardware is waiting to be built to spec.
DejaGNU		Framework for testing interactive programs
Information on TET		The Test Environment Toolkit (nice package, our staff helped design it)

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COMMUNICATIONS TEST TOOLS

Product	Vendor	Comments
AdventNet Simulator	AdventNet, Inc.	Agent simulator and network simulator for testing, training, and demonstration of network management applications. The network simulator enables simulation of SNMP (v1, v2c, v3), TL1, TFTP and FTP devices, on a single PC. It supports dynamic configuration of virtual IP address, enables recording of real networks and traps, allows advanced modeling of agent/network behavior and management through RMI.
ANVL	netIQ	The Automated Network Validation Library is a system for testing of network products. It enables network product companies to make their testing processes faster and more thorough. With ANVL, a user can rapidly and repeatably test network-based devices without the need of an analyzer or lots of equipment. ANVL facilitates negative testing by its ability to generate incorrectly-formatted packets as well as correctly-

		formatted ones. ANVL comes with ready-to-run test suites for AppleTalk endnodes and routers, ARAP v1.0 with v2.0 extensions, TCP/IP RIP Gateway, PPP, (with IPCP, ATCP, IPXCP and VJ Compression), OSPF Level One Functional, and IPX Router, with more suites being added monthly.
Chariot	netIQ	Network performance testing tools
Cheetah	Tollgrade	This fully integrated solution allows you to proactively test and monitor your VoIP and VoD performance while maintaining the integrity of other critical applications.
Drive Test	Cellogic	M-Logic GSM, GPRS, EDGE, 1XRTT, CDMA2000, UMTS, WCDMA Network Optimization and Benchmarking performance test tools.
Emulation Engine XT	Communication Machinery Corporation	Create and control multiple concurrent 802.11 compliant stations, with full support for WPA and 802.1x. Perform sophisticated performance, capacity, scalability and stress testing of 802.11 products, Wireless LAN architectures and systems implementations.
ITF	Applied Computer Technology	TCP/IP network product testing system. Provides PC-based environment for development, architectural conformance verification, load/stress and performance testing of TN3270, TN3270E, TN3287, and TN5250 products using Ethernet, Token Ring, SLIP, and PPP connections. Provides over 800 ready-to-run validated tests, and allows development of additional tests using test case development tools and an open API.
iSoftTechTAS	iSoftTech	Helps automate network equipment testing. It automates the process of testing as well as test lab management. It automates build, image download, test, analyze report, and bug report. It connects to various test equipments and equipments in a topology using their API set.
LANTraffic	Omnicon	Provides automatic generation of TCP and UDP traffic. User may specify different configuration parameters to test, measure, shape and control traffic load. Download free 15-day trial.
Maxwell	Interworking Labs	Network Impairment System - enables you to modify, distort, and corrupt the flow of network traffic in a controlled, very precise, stateful manner. It also operates in real time and modifies traffic while the protocol discussion continues. So, you can easily and thoroughly test the quality of service (QoS), resilience, and reliability of each network device.
NetDisturb	Omnicon	IP network emulator software that can generate impairments such as latency, delay, jitter, limited bandwidth and lost packets. "NetDisturb" allows the user to disturb flows on an IP network and so study the behavior of applications, devices or services in a disturbed network environment. NetDisturb is inserted between two Ethernet segments and operates bi-directional packet transfer on Ethernet, Fast Ethernet and Gigabit Ethernet(10/100/1000) network interface cards. Download 15 day free trial.
NetworkTester	Agilent	<p>Test system focused on performance testing of connection-aware and content-aware (layer 4-7) devices and networks.</p> <p>Equipment manufacturers, network operators, and network managers test security and content networking devices using NetworkTester, including intrusion detection/prevention systems, web/mail servers and filters, VPN concentrators, SSL accelerators, and load balancers.</p> <p>NetworkTester emulates any mix of real, multi-port, client/server traffic, including FTP, HTTP, IM, NFS, NNTP, POP3, RTSP, SAMBA, and SMTP, with integrated VLAN, 802.1X, DHCP, IPsec, and PPPoE support.</p>

		A powerful and flexible GUI, driven by Test Plans, requires no scripting and offers unlimited scalability to measure performance limits.
nGenius Performance Monitor	NetScout	Unites the key disciplines required for effective performance management in a single product - capacity planning, application monitoring, network monitoring, troubleshooting, fault prevention, and service level management - greatly simplifying your network management environment.
SDTF	Applied Computer Technology	SNA testing
SNAsim	Applied Computer Technology	SNA host simulator
Silvercreek SNMP Test Suite	Interworking Labs, Inc.	Verifies protocol compliance, error and exception handling, boundary conditions, and performance under heavy network loads.
VoIP Conformance Test Suite	HCLT	A wide range of testing solutions for testing SIP based components such as User Agent, Proxy, Registrar, B2BUA, Presence and IM server, SIP-MGCP Soft Switches.

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OTHER PRODUCTS

Product	Vendor	Comments
Aprobe	OC Systems	Debugging tool that collects and analyzes data by instrumenting the executable
Ascrt		QA products for the HP NonStop (a.k.a. Tandem) marketplace
BBTestAssistant	Blueberry Consultants	PC recording tool that captures the screen, audio, keyboard and mouse activity. It will also collect detailed PC configuration information to aid problem tracing. It sits in the taskbar and records all pc activity with no notable CPU overhead and can even detect windows errors and crashes. The file size it creates is small and good quality, and you can even search for keyed text in movies.
Exchange Simulator	Aegis Software	Simulates testing interfaces to different equity/options exchanges over a variety of protocols.
Funnel IT	ByStorm Software	Gathers module, process, and other useful general information. The information is saved in a single, small (~20k), sharable file that could be attached to a defect or other quality assurance communication. Information is organized in an easy-to-use tree interface. Freeware.
KaNest	KaSYS	Transactional & Smartcard Communication Testing Software. Our tools tests communications between two systems on the applicative level (ex. between a server and an ATM).
QACenter 3270 Edition	Compuware	Application testing
Stabilizer		The goal of the Stabilizer project is to quickly stabilize buggy GUI applications so that people can get real work done with them. In our approach, thousands/millions of users collaboratively and quickly stabilize a buggy GUI application simply by using the application normally and

		reporting any bugs that they encounter to prevent anyone (including themselves) from encountering those same bugs again.
TestBench400	Original Software	AS/400 test automation.

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SERVICES

Vendor	Comments
Applied Testing and Technology	Manual and functional and performance testing for Web Sites and GUI applications, system software, and compilers. Developer of ApTest Manager - Software Test Management Tool.
Platform Lab	Platform Lab is a non-profit IT test lab where all types of businesses and organizations conduct load/stress testing using tools and hardware provided by Platform Lab. Platform Lab builds a configuration to client specification at no charge, basic rate is \$2,500/week. Key note: Platform Lab does not conduct testing - simply provides hardware, software, connectivity, VPN and space. For more information - www.platformlab.org or 614-675-3711.
Programmer's Heaven	Download free programming files, source code, tools and more for a whole range of languages and technologies, including VB, C/C++/C#, .NET and Java.
QiDO	Provides Java Source Code Analysis and Quality Reporting based on customizable rulesets (BugPatterns). Reports are available as summary in form of graphs, statistics and metrics for project management and detailed developer report (HTML and XML Format).
Software Resources	
Winrunner Consultants	Winrunner consulting, training, information, and best practices.
XCP.org	The XML control protocol.
Internet Web Directory	The internet's fastest growing directory of the best web sites. Fully searchable and updated regularly.

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